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Meta-Ethnography for Capacity Building: A Spiral Approach

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Abstract

Graduate education aims to build capacities of current and prospective early childhood educators in conducting academic discourses which include among others reading, writing, and synthesizing studies published in academic journals and other credible sources. Academic writing can induce anxiety among graduate students (Bloom, 1982). It is thus important to teach, instruct and scaffold graduate education students in academic reading and writing and to develop capacities of graduate education students in proposing and conducting independent studies on the phenomena of their own interest. This paper focuses on introducing meta-ethnography and seven phases in an educational inquiry course of an early childhood graduate education programme. Teaching of qualitative synthesis in an inquiry course is designed in a spiral curriculum (Harden & Stamper, 1999) and is organized according to seven phrases (P) (Noblit, 2019): Getting started (P1), deciding what studies are relevant to that interest (P2), reading the studies (P3), determining how the studies are related (P4), translating the studies (P5), synthesizing the translations (P6), and expressing the synthesis (P6). The spiral approach to teaching meta-ethnography in inquiry comprises three stages: Getting ready for analysis (P1, P2, and P3 in iterations), getting ready for synthesis (P4 and P5 in iterations), and synthesizing and presenting the synthesis in academic writing (P6 and P7 in iterations). Within each stage, learning is spiral around four processes: Revisiting the topic or contents in the previous phase, increasing levels of difficulty, relating new learning to previous learning, and increasing competence.

Keywords: Meta-Ethnography, Graduate Education Students, Early Childhood Education, Seven Phases, Spiral Curriculum

INTRODUCTION

Graduate students attending high education programmes are required to master academic writing styles, understand contents presented in academic journal articles, conduct research inquiries, write research proposals, and present analytical and synthesized views. Academic discourses involve graduate education students, among others, to read articles, understand the essence of the contents, identify problems related to the issues of concern, indicate gaps and challenges in theories and practices, and suggest ways to close some of these gaps. Academic writing can induce anxiety as there has been little deliberate guidance within graduate education courses on how to identify relevant journal articles, read, write, analyze, synthesize well. Bloom's study (1982) on why graduate students cannot write remains relevant. She investigated ten graduate education students' academic writing experiences. The findings of her investigation suggested that academic writing should be introduced in higher degree courses and graduate education faculty members should tailor instructions on finding key resources, suggesting limits of reading and research investigations, and explaining format of organization within students' disciplines (Bloom, 1982).

In Singapore, early childhood prospective and current educators who enroll into the Master in Education programme are expected to present their reflections, write research proposals, and compile findings of research studies using academic language. In the educational inquiry course, for instance,

graduate education students are required to read empirical studies of a topic of interest in the inquiry of education published full-text, in peer-reviewed journals. They read the studies repeatedly to identify key concepts, key terms, main ideas, main findings, and main gaps of studies. The outcomes of repeated reading in the form of concepts, terms, ideas, findings, and messages are organized and re-organized systematically. To share the outcomes of reading, synthesis of the translations of the studies are presented verbally in the class and as an academic writing term paper. Often graduate education students who are mid-career adult learners, practitioners, and/or center leaders face challenges to complete their academic writing assignment. To develop academic writing capacity of academic writing of graduate students in the field of early childhood education who are practitioners, we develop systematic and iterative learning and scaffolding pedagogies to frame graduate students' inquiry experiences within a graduate education course.

According to Bruner (1983), the exercise of capacity depends upon a person appropriating him(her)self to modes of action and thinking that exist in the culture (p. 23). Burner (1960) also states that a metamorphic spiral in curriculum means at some simple level a set of ideas or operations are introduced in a rather intuitive way. In the context of learning, once the student masters the ideas or operations in that basic level, s/he revisits and re-construes them in a more formal or operational way. When ideas or operations connect with other knowledge, mastery in this stage is then carried one step higher to a new level of formal or operational rigor and to a broader level of abstraction and comprehensiveness. Bruner (1960) goes on to say that the end stage of this process of spiral learning is mastery of connexity and structure of a large body of knowledge.

The objective of introducing a spiral curriculum of meta-ethnography is to close the gaps of reading and writing academic journal articles. It also aims to provide a systematic and step-by-step analyzing and synthesizing framework to scaffold graduate students in the field of early childhood to read, analyze, summarize, synthesize, and write what they understood from academic discourses. Qualitative synthesis or qualitative systematic review (Seers, 2012) involves "systematically searches for research on a topic and draws the findings from individual studies together." (p. 101) Teaching of qualitative synthesis in an inquiry course is designed in a spiral curriculum (Harden & Stamper, 1999) and is organized according to seven phrases (P) (Noblit, 2019): Getting started (P1), deciding what studies are relevant to that interest (P2), reading the studies (P3), determining how the studies are related (P4), translating the studies (P5), synthesizing the translations (P6), and expressing the synthesis (P6). The spiral curriculum of meta-ethnography in inquiry introduced the phases in three stages: Getting ready for analysis (P1, P2, and P3 in iterations), getting ready for synthesis (P4 and P5 in iterations), and synthesizing and presenting the synthesis in academic writing (P6 and P7 in iterations). With reference to the spiral curriculum metamorphosis, variations are introduced to the seven-phase framework of meta-ethnography in the context of inquiry for early childhood education. In each phase contents of the preceding phases are revisited according to the level of competence and readiness of the learners. Iterative feedback loops between the instructor and the graduate students during consultation sessions enhance quality of synthesis and quality of expressing the synthesis. The seven phases are organized into three stages. In each stage, the process and contents of learning are revisited and the outcomes of the discovered learning are re-construed. Each return visit addresses the successive level of difficulties. The introduction of a spiral curriculum approach to education inquiry is important as the phases of meta-ethnography systematically prepare graduate education students to experience the analytical and synthesized processes of academic writing.

FIRST STAGE: GETTING READY FOR ANALYSIS

The first stage is termed "getting ready for analysis" which is taught to graduate students for a duration of three to four weeks. The introduction of the seven phases is done in the first lesson at the simple (basic) and intuitive level. During the same lesson, early childhood graduate students, who have learned all seven phases *intuitively* at a simple/basic level, embark on discovering their own areas of interest and formulating their own research questions which will be revisited in the next phase, when they conduct literature search (Harden & Stamper, 1999). Analysis is about separation of a whole into components or parts. Accordingly, a complex (intermediate/advanced) topic of interest or

a research question is separated into various components. For instance, a research question comprises three components, namely variables or a phenomenon, participants of the study, and site of the study. Within each stage, learning is around four processes*: Revisiting the topic or contents in the previous phase, increasing levels of difficulty, relating new learning to previous learning, and increasing competence.*

Revisiting the topic/contents in the previous phase. Each week when the students revisit the contents of the previous lesson, they re-construe what they have discovered in the previous lesson in a more formal or operational way. In phase 1 "getting started", revisit of the topic of interest and generation of research questions are conducted in iterations with phase 2 "" and phase 3 "repeated reading" to acquire new knowledge and skills relating to the topic.

Increasing levels of difficulty. Knowledge and skills graduate education students newly acquired in the second phase "deciding what studies are relevant to that interest" include generating key terms, identifying databases, and constructing inclusion and exclusion criteria relating to the research question and topic of interest. The students revisit the discovered outcomes of learning, i.e., their research questions and topics of interest. They construct rationales for selecting the topics. They advance their skills in aligning the topics of interest, research questions, and literature search techniques. Their ability to appraise relevant articles in alignment to the topic of interest is developed through iterative practices of phase 1 and phase 2. Reporting the discovered learning outcome and the process of discovered learning advances their knowledge of generating key terms of search from the research questions they formulate (see Table 1). For instance, literature search starts with basic search techniques using key terms, author search, hand-search (Westphal, Kriston, Hoelzel, Haerter, & von Wolff, 2014). It then moves to systematic search (Wollin, 2014) before innovative and other searches such as berry picking (Bates, 1989), and backward and forward snowball search techniques.

Table 1 Examples of Levels of Difficulties in Phases

	Formulating research question (Phase 1)	Literature search (Phase 2)
Basic	Recognizing components of research questions of qualitative and quantitative studies	Generating key terms from components of research, identifying e-databases for search (Key search terms, synonyms, Boolean language, selecting database indexing terms and combining search terms, Cooper, Booth, Varley-Campbell, Britten, & Garside, 2018)
	Formulating research questions of quantitative and qualitative studies	Generating systemic and contents related inclusion and exclusion criteria
	Formulating research questions for literature search and for research proposal	Selecting search strategies: Systematic, citation, hand search (Westphal, Kriston, Hoelzel, Haerter, & von Wolff, 2014), journal run, author search, berry picking (Bates, 1983)
Intermediate/ Advanced	Aligning research questions with topic of interest and literature search	Mastering search strategy and reporting search history in visual and writing (e.g., Systematic Reviews and Meta-Analyses,

	PRISMA, Cooper, Booth, Varley-Campbell, Britten, & Garside, 2018)

Relating new learning to previous learning. The previous loop of spiral learning is linked with the subsequent loop of spiral learning (see Table 2). For instance, when acquiring skills for learning "how to appraise quality of the articles using a checklist", the graduate students revisit the previous learning of how to identify relevant articles using the inclusion and exclusion criteria. The "bite-sized" spiral approach to learning in this manner reduces students' overwhelming feelings from managing new learning related to meta-ethnographic phases, basic knowledge of inquiry, , and research skills.

Table 2 Relating New and Previous Learning with Levels of Difficulty

Level	**Week 1**	**Week 2**	**Week 3**	**Week 4**
Basic	Recognizing components of a research question	Key words search		
		Formulating a research question from topic of interest	Systematic search	
			Aligning research question with topic of interest and literature search	PRISMA
Intermediate/ Advanced				Writing phase 1 Topic of interest Rationales

Increasing competence. In each revisited learning, the students' competence for each phase increases, until overall objectives of each phase and each stage are achieved. In first stage, iterative revisits of the previous contents of learning within each phase is done weekly. New skills and knowledge of repeated reading in phase 4 are introduced in week 1 and the is iterated in week 3 with practices. It continues to week 4. Iterative learning of contents of week 1 (phase 1) and week 2 (phase 2) continues in the subsequent weeks (week 3, week 4, and week 5). Competence of each phase or stage is gained progressively. The procedures of assessment of meta-ethnographic inquiry competence are set out at the start of the course through among others: Verbal reporting (informal), submission of learning outcomes in each phase (formal), and submission of draft writing of each phase (informal).

SECOND STAGE: GETTING READY FOR SYNTHESIS

While analysis is about separating the whole into parts for incremental understanding of each part, synthesis is combining interpretations of these parts for a new whole. Reading repeatedly is essential in phase 3 to identify key concepts, idiomatic expressions, metaphors, similes and the like. Identifying

of key concepts of each article is tabulated so that students can read the key concepts or ideas they identified repeatedly to establish coherent meanings. At this phase, some graduate education students are able to construct a preliminary visual representation of the key ideas or key concepts with less details on their relations or associations. Reading repeatedly continues in phase 4. Beyond key ideas and key concepts or general, impressive reading, deep reading of the article's spirals around each part of the articles. The key characteristics of the empirical articles are summarized in a table. Some students after summarizing the studies and findings out how they relate to each other start to construct an initial visual representation of the key characteristics. However, they have not concluded the relations of key characteristics across all primary studies.

Starting from week 3, spiral curriculum moves graduate students to reading a journal article in a group. Explicit teaching is done for recognizing characteristics of a journal article (peer-reviewed) and acquiring vocabularies of quantitative and qualitative articles. Two strategies of reading that the students revisit is: skimming and scanning. Skimming is about reading the contents of the article to get the main impression of the article. Scanning is about zooming into a part of the articles in which the reader is interested to get the main sense of it. In addition, to prepare for critical reading, the students are led to read the title of the article and to recognize the phenomenon or variables, participants, site of the studies, research designs and so on. After reading the title, the students read the abstract to find out the essence of the article (see Table 3). Subsequent readings focus on identifying key concepts of the study (week 3 and week 4) within the articles and later generating concepts that "have maximum explanatory value" and that can be integrated into the theory (Dixon-Woods et al, 2006, p. 37)

Table 3*Repeated Reading in Spiral Curriculum*

Week 1 Week 2 (revisit)	Week 1 Week 2 (revisit)	Week 1 Week 2 (revisit) Week 3 (revisit)	Week 1 Week 2 Week 3 (revisit)	 Week 3 Week 4 (revisit)	 Week 4
Getting ready with general reading strategy I Skimming	Getting ready with general reading strategy 2 Scanning	Getting ready for critical reading 1 Title	Getting ready for critical reading 2 Abstract	Phase 3 with critical reading Key concepts	Phase 4 with critical reading Key characteristics

Week 4 teaching includes understanding research designs, instruments, methods of data collection and analysis. The explicit teaching exposes graduate education students to different parts of an empirical journal article intuitively. In a group they are tasked to conduct critical reading of two journal articles, one for quantitative and one for qualitative article. From week 5 to week 7, there is revisit of critical reading components in each lesson for multiple articles and draft writing of phases 1-3 (*revisiting the topic or contents in the previous phases*) in the note form completed by week 7. During this period, contents of phase 5 are delivered with reference to different research designs. By the end of week 7, draft slides of verbal sharing are sent to the instructor a week prior to the actual presentation for constructive feedback. In week 8 the first stage of getting ready of analysis concludes after verbal presentation. Thereafter, the second stage of drafting writing out the contents of Table 4 and Table 5 starts. By week 10, with spiral revisited learning, phases 4 and 5 conclude preliminary. In-class sharing includes some students presenting their preliminary frameworks of themes generated from analysis of the studies in phases 3 and 4. Draft writing in academic style starts for Phases 1, 2, 3, and 4.

Table 4 Summarizing Key Concepts

Author	Key concept 1	Key concept 2	Key concept 3

Table 5 Summarizing Key Characteristics

Author	Framework/theory	Research questions	Participants	Measures	Procedures	Findings	Discussion	Conclusion

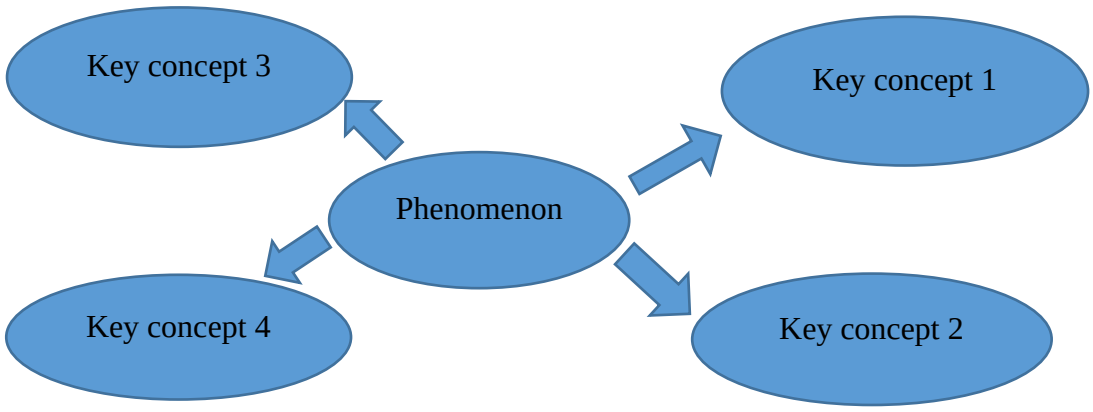

Figure 1. A Basic Representation

Graduate education students can choose to complete their study in seven phases (option 1) or in four phases (option 2 for "proposing a study"). Spiral curriculum for writing qualitative synthesis is guided by multiple representations of the contents that are organized into themes and relations (see also CONCLUSION in this paper). According to Bruner (1960, 1983) knowledge can be represented in three ways, namely enatic (experience and action), iconic (visual representation), and symbolic (sign, words, expressions, and language). The use of e-databases to search for relevant article is enatic. The use of visual representations is iconic. Writing is symbolic. Reading and writing enhance understanding the essence of the primary studies. While in reading the student immerses into the texts and internalizes the meanings of the texts by identifying (recognizing, knowing) interpreting (explaining), and translating (comparing and contrasting, *increasing levels of difficulty*), in writing the student takes a step back distancing him(her)self from the texts and searching for the relations among the codes and themes s/he notes in her(his) reading (*relating new learning to previous learning*). A simple visual representation is shown in Figure 1 which lists the themes that are related to the phenomenon or the key concepts in the primary studies. The associations among the themes or key concepts emerge when graduate students engage in meaning generation. When key concepts coping style, caregiving and child diagnosis create meanings of quality caregiving of young children with special needs, they can be represented in a complex visual representation (see Figure 2, *increasing competence*). The qualitative data analysis skills such as thematic analysis or constant-comparative method can be used to generate the relations and create meanings of similar or different concepts in the primary studies.

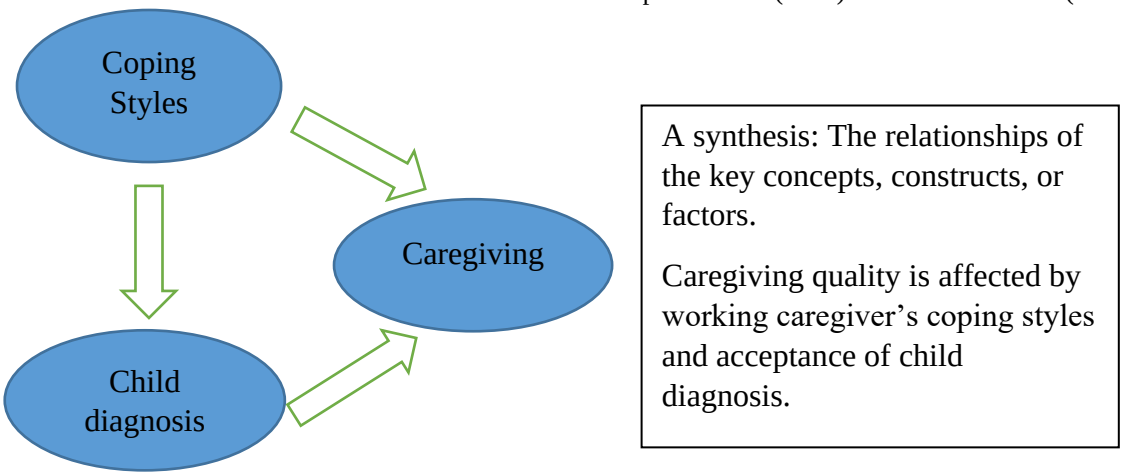

Figure 2. A Comprehensive Representation (e.g., Factors Influencing Caregiving)

Writing involves a continual engagement in organizing materials and contents, analyzing the contents in parts (dissociation of original meanings, Vygotsky, 2004), and associating new meanings (generation or creation of relations among parts of contents) from new relations of parts. Combining parts for emergence of meanings requires multiple revisits of similar and different contents in iconic (visuals) and symbolic representations. A spiral writing schedule (Table 6) shows that the initial writing is guided by a template and visuals. Writing on the relations of the themes in coherence is guided by the synthesis of translations. Referring to each theme and different levels of interpretation (phase 3, *revisiting the topic or contents in the previous phase*), quality writing is a result of drafting, revising, and editing. While the qualitative synthesis option 1 focuses on synthesizing multiple qualitative studies to generate a synthesized whole or a middle-range theory, that of option 2 focuses identifying gaps of research for a research proposal.

Table 6 Spiral Schedule for Writing

	Week 4	*Week 5*	*Week 6*	*Week 7*	*Week 8*	*Week 9*	*Week 10*	*Week 11*	*Week 12*	*Week 13*
Option 1						*Phase 5*	*Phases 5 and phase 6*	*Phases 5, 6 and 7*	*Phase 7*	
Option 2	*Phase 1*	*Phase 2*	*Phase 3*	*Phase 4*	*Phase 4*	***Phase 5***	***Phase 5***	***Phase 5***	***Phase 5***	
	Writing in template	*Writing in template*	*Tabulating*	*Completing tabulation*		***Research design***	***Participation and sampling strategy***	***Procedure and ethical considerations***	***Data collection and data analysis***	
			Submission of template of phases 1-3 for feedback			*Visual representation of themes from the articles*				
						Submission of template phases 4-5 for feedback	***Writing theme by theme of literature review (option 2)*** *Writing theme by theme after line of argument (option 1)*			
							Writing part by part of phase 5 (option 2) *Writing part by part of phases 5, 6, and 7 (option 1)*			*Final editing*

Note: ***bold for option 2***

Phase 5 (option 1) focuses on synthesizing translations of the qualitative studies. A table of interpretation is prepared (see Table 7). The table organizes the contents into columns. The column of the first level interpretation includes voices or direct speeches of the participants, the second column for the views of the authors and the third column for the interpretations of the student researcher. In the initial reading the researcher interprets the first and second interpretations and accordingly writes

his(her) own interpretations and based on his(her) professional expertise, experiences, knowledge, and knowing, and so on.

To translate the studies, the student researcher can color code the concepts, key ideas, conceptual understanding. In addition, s/he can write down possible associations among codes in the memo columns. Open coding is analytical, separating interpretations (data) to give new insights into these interpretations (Corbin & Strauss, 1990). Questions are posed when data are constantly compared and coded to break through subjectivity and bias (Corbin & Strauss, 1990). The goal of open coding is developing codes that describe the data. Possible questions are such as which people are involved (who), which aspects of the phenomenon are dealt with (how), which strategies are used (whereby?) (Vollstedt & Rezat, 2019).

By the end of third reading, codes in the volumes of interpretation and memos are integrated to generate categories or themes (*increasing levels of difficulty*). Questions are posed with reference to personal and professional experiences, knowledge gained from the levels of interpretations. They are used in creative, free associations to interpret and to develop codes to describe the interpretations (Strauss & Corbin, 1999; *relating new learning to previous learning*).

Table 7 Multiple Levels of Interpretation and Open Coding

Author initials of the article	Theme	First level interpretation	Second level interpretation	Third level interpretation	Memo

Phase 5 (option 2) is about drafting a research proposal. Research questions of a research proposal are formulated based on the literature review and gaps of the previous studies (see phase 4). The aims of the research study guide the selection of a research design of the study. Subsequently, the participants of the study, the recruitment process, and sample strategy are described followed by measures, procedures, ethical considerations, and data analysis (see Table 8).

Table 8 Components of a Research Proposal

Research Question
Research Design
Participants
Recruitment
Sampling Strategy
Measures
Procedures
Ethical Considerations
Data Analysis

THIRD STAGE: SYNTHESIZING AND PRESENTING SYNTHESIS

Phase 6. Synthesizing translations using grounded theory axial coding (Corbin & Strauss, 1990) relates themes to sub-themes and the relationships to the data. Themes can be further developed in translational analysis – reciprocal for similarities and refutational for differences, and lines of argument for overlapped themes. Table 9 outlines how subthemes that are similar are grouped to the column of reciprocal translation alongside the author initials of the articles on the left and the column of the theme on the right. In the similar ways, subthemes of refutational translation are recorded. Themes are revised through the processes of translational analyses. Once the analyses reach saturation,

when there is no new theme emerge, the final themes are used for developing a coherent visual representation and synthesis writing.

Table 9 Translational Analysis and Axial Coding

Author initials of the articles	Reciprocal translation	Refutable translation	Themes

Phase 7 (option 1). To develop a coherent whole of the theoretical or conceptual framework or a middle-range theory, elective coding (Corbin & Strauss, 1990) is performed. All themes are unified around a "core" theme. The core theme represents the central phenomenon. It is identified by asking a question such as "What is the main synthesized message in this study? The core theme is more abstract, and other themes stand in relationships to this core theme as conditions, actions or interactional strategies, or consequences. Visuals can assist in synthesizing these themes (Corbin & Strauss, 1990). Meta-ethnography seventh phase is about expressing the synthesis in an academic writing style and academic languages (*increasing competence*).

CONCLUSION

Since the introduction of meta-ethnography (Noblit & Hare, 1988), the methodology has received attention from nursing and health care researchers (see e.g., Seers, 2012). Processes of analysis and synthesis of meta-ethnography have been improved (Sattar, Lawton, Panagioti, & Johnson, 2021) with researchers releasing increasing details on how to interpret and translate. Introducing meta-ethnography to student researchers in the context of inquiry using spiral curriculum broadens the seven phases to qualitative synthesis of qualitative studies (option 1) or literature review for a research proposal (option 2).

Writing of a qualitative synthesis is supported in a collaborated learning environment. Referring to the action research design, a practical action plan cycle (Figure 3) is suggested to guide teaching of writing for a qualitative synthesis term paper. Action research aims to achieve a better world in which we embrace diversity and differences and in which we live well, wisely, and happily (Kemmis, 2007. 2010). Academic writing for professionals in graduate education for *capacity building* is a matter of practicing a way of life. A unitary praxis (action) in life comprises three aspects, namely practicing speaking and thinking clearly (logic, understanding), acting productively (cosmo/physics, acting), and relating well to others and to the world (ethics, relating) (Kemmis, 2010). In coherence, a unitary praxis is a process of self-forming. It aims for the good of humankind in acts consciously and collectively to perform the good (Kemmis, 2010). Our action research practice cycle combined with the spiral approach to writing comprises four stages. In the planning stage (*understanding*), the instructor creates templates for the learners to write their personal notes and point forms, to tabulate key information of the articles, to construct visuals, and to generate key concepts, themes, and lines of argument. In the action stage (*acting*), the instructor delivers the seven phases and guides writing of learning outcomes either in point forms or with visuals. In the draft writing stage (*relating*), key concepts and characteristics are interpreted and translated and new key concepts, themes, or categories are generated and their relationships are represented visually. Consultation (*understanding, relating*) for writing provides the learners support and feedback on transforming knowing and intuitive thinking to logical and sequential thinking with reference to academic writing style. Reflection in action and on action (*acting*) is about evaluating the outcomes of learning and refining the scaffolds and instructions of teaching (*relating*) for the current and subsequent cycle of action research

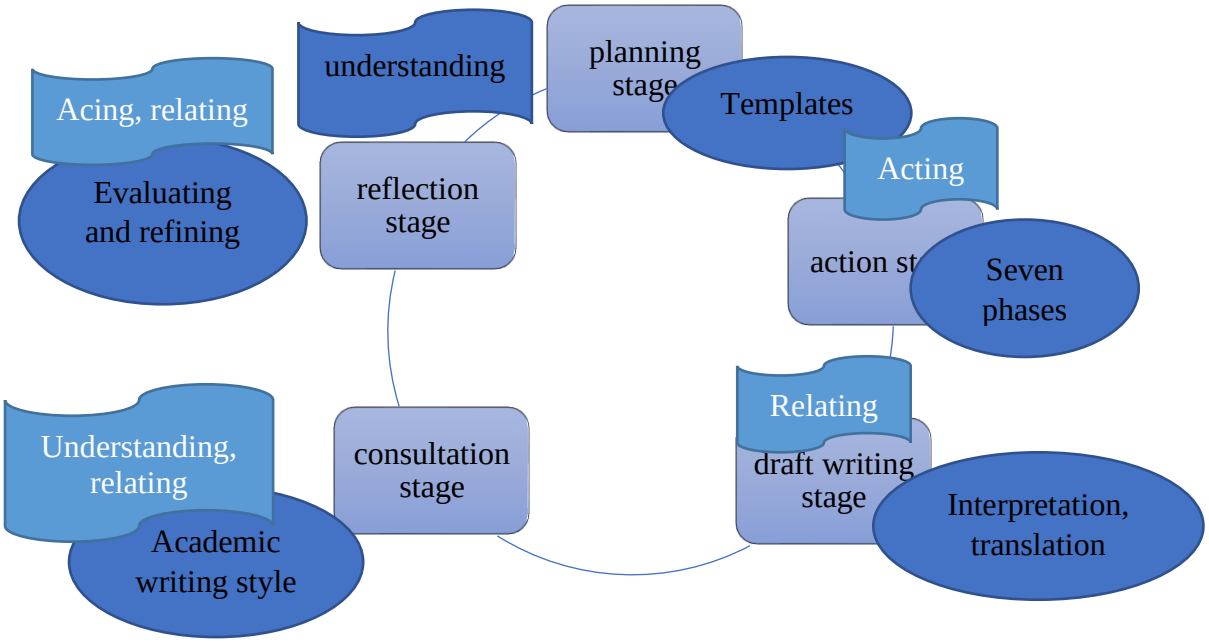

Figure 3. A Cycle of Practical Action Plan

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